

# THE CORRECT SCIENTIFIC NAME OF THE PALE, YELLOW OR WHITE GENTIAN OF THE EASTERN UNITED STATES

ROBERT L. WILBUR

*Department of Botany, Duke University, Durham, NC 27706, U.S.A.*

## ABSTRACT

After demonstrating that the binomial *Gentiana alba* Muhl. was not originally validly published, it is concluded that the correct name for this distinctive species is *Gentiana flavida* A. Gray.

After the barest suggestion by Gillett (1963, p. 5) together with Pringle's fuller explanation (1965), there has developed an overwhelming consensus among botanists that *Gentiana alba* Muhl. is the correct scientific name of the gentian of the eastern United States whose vernacular name is allegedly the White, Pale or Yellowish Gentian. Pringle's account indicated that Muhlenberg's binomial is the name that species has been known by throughout most of its history until Porter (1899) proved to his own satisfaction at least that what had been passing as *Gentiana alba* Muhl. could not have been what Muhlenberg had in mind when he ever so briefly introduced this species since Muhlenberg's species was thought by Porter to be unknown in eastern Pennsylvania, the area with which Muhlenberg had personal familiarity. Having apparently thoroughly discounted the claim of *Gentiana alba* Muhl., as the earliest correct name for this species Porter reverted to the binomial *Gentiana flavida* A. Gray, a name introduced by Gray in 1846 with some trepidation since he even then suspected the species he had collected in what is now West Virginia might well be Muhlenberg's *Gentiana alba*. This suspicion grew into conviction and A. Gray by 1848 took up Muhlenberg's name and the species was known as *Gentiana alba* Muhl. for most of the next half century or until Porter cast doubts on the application of the name at century's end for the reason related above. Thereafter *Gentiana flavida* A. Gray has been the binomial by which the species was most frequently known (i.e. Fernald 1950 and Gleason 1953) until Gillett (1963) and Pringle (1965) reversed the trend.

Since Pringle's paper almost all floras, checklists, revisions, and papers that have come to my attention have employed the name *Gentiana alba* Muhl. in preference to *G. flavida* A. Gray. Examples of these include Andrews & Cooperrider (1981), Barkley (1977), Baumgartner & Baumgartner (1987), Bolick (1986), Gillett (1963), Kartesz & Kartesz

(1980), Mason & Iltis (1965); Mohlenbrock (1975), Mohlenbrock & Ladd (1978), Pringle (1965 & 1967), Radford, Ahles & Bell (1968), Shetler & Skog (1978 where both names are listed), Strausbaugh & Core (1973) and Wood & Weaver (1982). Although listed as *G. flavida* A. Gray in such earlier basic regional floras as Fernald (1950), Gleason (1952) and Gleason and Cronquist (1963) the name has been more recently largely replaced in the botanical literature. Examination of the nomenclatural background and origins of both names does not in my opinion justify the wholesale stampede to abandon *Gentiana flavida* A. Gray which I believe is the correct binomial for this species.

Gillett, as related by Pringle (1965), settled the matter to their satisfaction at least by disproving Porter's principal objection that Muhlenberg was unlikely to be referring to the White Gentian as that species was not known to eastern Pennsylvania, the area most familiar to Muhlenberg. Gillett reported finding a specimen of *G. alba* so identified among the Muhlenberg specimens at PH which clearly demonstrated that Muhlenberg's *Gentiana alba* was the species that Gray had originally renamed *G. flavida* although suspecting it might well prove to be *G. alba*.

The more crucial question concerning *Gentiana alba* Muhl. is not whether it was the same as *Gentiana flavida* A. Gray but whether the binomial *G. alba* was validly published according to the requirement of the ICBN. Muhlenberg's account (1813) of *Gentiana* from his Catalogue is reproduced below to demonstrate the form in which this meager checklist appeared.

## CL. V. PENTANDRIA.

## DIGYNIA.

Calix. Corolla.					Habitat. Fructus, et Tempus florendi.	
part.	5 fid.	201.	GENTIANA	GENTIAN	caps. oblonga, 1 loc, 2 valv.	
	caer.	1.	pneumante	ψ	Calathian violet	Can.
	caer.	2.	saponaria L.	ψ	soapwort	Pens. fl. Sept. Car.
	ochrol.	3.	ochroleuca	ψ	pale white	Pens. fl. Sept. Virg. Car.
			saponaria Mx.			
	alb.	4.	alba	ψ	white	Pens. fl. Sept.
	lutesc.	5.	villosa		villous	Virg.
		6.	linearis		linear-leaved	Pens.
	caer.	7.	puberula		hairy	Cherok.
	caer.	8.	angustifolia		narrow-leaved	Car. N. Caes.
		9.	quinqueflora		five-flowered	Pens. Ten.
	caer.		amarelloides Mx.			
	vir.lut.	10.	acuta		sharp-leaved	Car. Pens.fl.Sept.N.Angl.
	caer.	11.	crinita		fringe-flowered	Ohio.
	lut.	12.	lutea		yellow	Virg. (Kalm)N.Caes.

To be validly published, Article 32 the ICBN requires that the “name of a taxon must ... be accompanied by a description or diagnosis or by a reference (direct or indirect) to a previously and effectively published description or diagnosis...” Art 32.2 indicates that “A diagnosis of a taxon is a statement of that which in the opinion of its author distinguishes the taxon for others.” Although *G. alba* is the only species listed with a white corolla, I do not believe that the statement of corolla color being “alb.” constitutes a valid diagnosis nor do I think that the scholarly Muhlenberg meant it to be taken as the publication of a new species. A letter from Muhlenberg is quoted by Merrill & Hu (1949, p. 7) as stating that “My Catalogue . . . has no descriptions. . .” Merrill & Hu (1949) concluded in the most detailed account of Muhlenberg’s work yet published “that all of the new names first published in Muhlenberg’s ‘Catalogus’ should be considered as *nomina nuda* except in those cases where explanatory synonyms are entered. It is true that from the very brief descriptive data included in the tabulation under the floral characters, together with the common names listed, and the data included under the habitat, together with certain descriptive specific names, shrewd guesses can be made as to what was intended by this or that entry.” They did not nor do I think we should accept as validating diagnoses such brief notes as corolla “alb.,” inflorescence “long-spiked” together with the locality and time of flowering such as “Pens.fl.Aug.” as constituting valid publication.

Although the shrewd guess of Asa Gray as to the identity of *Gentiana alba* Muhl. has been confirmed by the presence of a specimen of *G. alba* Muhl. in Muhlenberg’s collection now at PH, the fact remains that when originally published the name was not accompanied by either a description or a diagnosis. *Gentiana alba* Muhl. is an example of a *nomen nudum* or what some would call a *nomen subnudum* since there is some semblance of description material. It consequently should not be taken up in place of the *Gentiana flavida* A. Gray (Amer. J. Sci. II, 1:80. 1846) even though Asa Gray did just that. There were no codified regulations in Gray’s time as to what constituted valid publication but we now have the ICBN with its more precise specifications. Pringle’s declaration (1965, p. 45) that Muhlenberg’s description of *G. alba* was the earliest valid publication is not substantiated by examination of the original publication.

In the soon-to-appear ICBN resulting from the fourteenth International Botanical Congress meeting in Berlin in 1987, it is made even clearer that names appearing in such works of Muhlenberg’s Catalogue are not validly published. The example chosen to clarify this sometimes debated issue is to appear as an example under Article 32.1. It is expected to read as follows:

Example 3. In Sweet's *Hortus Britannicus*, ed. 3 (1839), for each listed species the flower colour, the duration of the plant, and a translation into English of the specific epithet are given in tabular form. In many genera the flower colour and duration may be identical for all species and clearly their mention is not intended as a validating description. New names appearing in that work are therefore not validly published, except in some cases where reference is made to earlier descriptions or to validly published basionyms.

Although the Rapporteur statement (Taxon 36: 214. 1987) that the names in Muhlenberg's Catalogue "have been consistently treated as not validly published" is surely an overstatement as to the consistency of American usage, it does provide an authoritative opinion on the non-validity of names first appearing in Muhlenberg's Catalogue.

For both of these points, I am very grateful to Dr. Dan H. Nicolson who provided references or copies of these recent rulings on such names in his most helpful review of this note.

#### REFERENCES

- ANDREWS, B.K. and T.S. COOPERRIDER. 1981. The Gentianaceae and Menyanthaceae of Ohio. *Castanea* 46:102 – 108.
- BARCKLEY, T.M. (editor) 1977. Atlas of the flora of the Great Plains. Iowa State University Press. Ames. xii + 600 pp.
- BAUMGARTNER, F.M. and A.M. BAUMGARTNER. 1987. *Lilium michiganense* Farwell (Liliaceae) and *Gentiana alba* Muhl. new to Oklahoma. *Sida* 12:249.
- BOLICK, M. 1986. Gentianaceae in Flora of the Great Plains. [pp. 604 – 609]. University Press of Kansas. Lawrence. 1392 pp.
- FERNALD, M.L. 1950. Gray's Manual of Botany. Eight Edition. American Book Company. lxiv + 1632 pp.
- GILLET, J.M. 1963. The gentians of Canada, Alaska and Greenland. Canada Dept. Agr. Res. Branch 1180. 99 pp.
- GLEASON, H.A. 1952. The new Britton and Brown illustrated flora of the northeastern United States and adjacent Canada. New York Botanical Garden. 3 vols.
- GLEASON, H.A. and A. CRONQUIST. 1963. Manual of vascular plants of north-eastern United States and Adjacent Canada. D. Van Nostrand Co., Inc. Princeton. li + 810 pp.
- GRAY, A. and W.S. SULLIVANT. 1846. Musci Alleghanienses, sive Spicilegia Muscorum atque Hepaticarum Georgiam per tractus montium A.D. MDCCCXLiii... *Amer. J. Sci.* II. 1:80. 1846.
- KARTESZ, J.T. and R. KARTESZ. 1980. A synonymized checklist of the vascular flora of the United States, Canada and Greenland. Univ. of N. Carolina Press. Chapel Hill. x lii + 498 p.
- MASON, C.T. and H.H. ILLIS. 1965. Preliminary reports of the flora of Wisconsin #53. Gentianaceae and Menyanthaceae--Gentian and Buckbean Families. *Trans. Wisconsin Acad. Sci.* 54:295 – 329.
- MERRILL, E.D. and S.-Y. HU. 1949. Work and publication of Henry Muhlenberg, with

- special attention to unrecorded or incorrectly recorded binomials. *Bartonia* 25:1 – 66.
- MOHLENBROCK, R.H. 1975. Guide to the vascular flora of Illinois. Southern Illinois University Press. Carbondale. ix + 494 pp.
- and D.M. Ladd. Distribution of Illinois Vascular Plants. Southern Illinois University Press. Carbondale. 282 pp.
- MUHLENBERG, H. 1813. *Catalogus plantarum americanae septentrionalis... or a catalogue of the hitherto known native and naturalized plants of North America, arranged according to the sexual system of Linnaeus.* W. Hamilton. Lancaster. iv + 122 pp.
- NATIONAL LIST OF SCIENTIFIC PLANT NAMES. vol 1. U.S.D.A. Soil Conservation Service. 1 – 416 p. [Name cited as *G. alba* Muhl. ex Nutt.]
- PORTER, T. 1899. *Gentiana alba*, Muhl. Bull. Torrey Bot. Club 16:53 – 54.
- PRINGLE, J.S. 1965. The white gentian of the prairies. *Michigan Bot.* 4:43 – 47.
- . 1967. Taxonomy of *Gentiana*, section *Pneumonanthe*, in eastern North America. *Brittonia* 19:1 – 32.
- RADFORD, A.E., H.E. AHLES and C.R. BELL. 1968. Manual of the vascular flora of the Carolinas. Univ. of N. Carolina Press. Chapel Hill. lxi + 1183 pp.
- SHETLER, S.G. and L.E. SKOG. 1978. A provisional checklist of species for Flora North America. Missouri Bot. Garden. xix + 196 pp.
- STRAUSBAUGH, P.D. and E.L. CORE. 1973. Flora of West Virginia. 2nd ed. Seneca Books, Inc., Grantsville. xi + 1079 pp.
- WOOD, C.E., Jr. and R.E. WEAVER, Jr. 1982. The genera of Gentianaceae in the Southeastern United States. *J. Arnold Arbor.* 63:441 – 487.